order to provide a clearance (G) between the inner shaft member and the outer cylindrical member. The arrangement of the fine members may be modified in order to adjust the rigidity of relative movement along the axial direction of the outer cylindrical member and the inner shaft member. –

In the Claims:

Please cancel claims 1-15 and enter the following new claims:

16. An apparatus for absorbing energy comprising:

an inner shaft member having an outer surface that is circular in cross-section,

an outer cylindrical member press-fitted around the inner shaft member, the outer cylindrical member having an inner surface that is circular in cross-section and the diameter of the inner surface of the outer cylindrical member is larger than the diameter of the outer surface of the inner shaft member, and

a plurality of fine members interleaved between the outer cylindrical member and the inner shaft member, the fine members extending along a straight line along an axial direction of the inner shaft member and the outer cylinder member.

17. An apparatus as in claim 16, wherein the fine members have a Vickers hardness and either (1) the inner shaft member has a Vickers hardness that differs by at least 200 from the Vickers hardness of the fine members or (2) the outer cylindrical member has a Vickers hardness that differs by at least 200 from the Vickers hardness of the fine members.

18. An apparatus as in claim 16, wherein the plurality of fine members are arranged to require a pre-determined pressing load in order for the outer cylindrical member to axially displace relative to the inner shaft member.

19. An apparatus as in claim 16, wherein an axially extending clearance is defined between the inner shaft member and the outer cylindrical member and proximal to the fine members.

20. An apparatus as in claim 16, wherein the length of the fine members along the axial direction is longer than or equal to a predetermined length that ensures a clearance between the inner shaft member and the outer cylindrical member when the inner shaft member and the outer cylindrical member absorb energy and become more deeply fitted.

21. An apparatus as in claim 16, further comprising means for preventing movement of the fine members in the axial direction.

22. An apparatus as in claim 16, wherein the fine members further comprise a coupling portion that fixedly couples the fine members to an end face of the inner shaft member or to an end face of the outer cylindrical member.

23. An apparatus as in claim 22, further comprising means for preventing the coupling portions of the fine members from dislodging from the end face of the inner shaft member or the end face of the outer cylindrical member.

24. An apparatus as in claim 23, wherein the fine members have a Vickers hardness and either (1) the inner shaft member has a Vickers hardness that differs by at least 200 from the Vickers hardness of the fine members or (2) the outer cylindrical member has a Vickers hardness that differs by at least 200 from the Vickers hardness of the fine members.

25. An apparatus as in claim 24, wherein the length of the fine members along the axial direction is longer than or equal to a predetermined length that ensures a clearance between the inner shaft member and the outer cylindrical member when the inner shaft member and the outer cylindrical member absorb energy and become more deeply fitted.

26. An apparatus as in claim 16, wherein the inner shaft member is an inner tube or an inner shaft and the outer cylindrical member is an outer tube or an outer shaft.

27. A method for assembling a steering device comprising:

extending a plurality of fine members along the axial direction of an outer surface of an inner shaft member or an inner surface of an outer cylindrical member, and

press-fitting the outer cylindrical member around the inner shaft member, wherein the fine members are disposed within a clearance defined between the inner shaft member and the outer cylindrical member at least along the length of the fine members that are interleaved between the inner shaft member and the outer cylindrical member.

28. A method as in claim 27, wherein during the press-fitting step, at least one of the inner shaft member, the outer cylindrical member, or the fine members is deformed beyond an elastic limit thereof.

29. A method as in claim 27, further comprising during the press-fitting step:

measuring the pressing load being applied, and

cutting the fine members when the measured pressing load reaches a predetermined value.

30. A method as in claim 29, wherein during the press-fitting step, at least one of the inner shaft member, the outer cylindrical member, or the fine members is deformed beyond an elastic limit thereof.

31. A method as in claim 27, wherein a predetermined length of the plurality of fine members is extended along the axial direction of the inner shape of the outer cylindrical member, and the inner shaft member is press-fitted while preventing the fine members from being axially pulled further into the outer cylindrical member.

32. A method as in claim 31, wherein during the press-fitting step, at least one of the inner shaft member, the outer cylindrical member, or the fine members is deformed beyond an elastic limit thereof.

33. An apparatus for assembling a steering device comprising:

means for extending a plurality of fine members along the axial direction of an outer surface of an inner shaft member or an inner surface of an outer cylindrical member, and

means for press-fitting the outer cylindrical member around the inner shaft member, wherein the fine members are disposed within a clearance defined between the inner shaft member and the outer cylindrical member at least along the length of the fine members that are interleaved between the inner shaft member and the outer cylindrical member.

34. An apparatus as in claim 33, further comprising means for deforming at least one of the inner shaft member, the outer cylindrical member, or the fine members beyond an elastic limit thereof.

35. An apparatus as in claim 33, further comprising:

means for measuring the pressing load being applied by the pressing means, and

means for cutting the fine members when the measured pressing load reaches a predetermined value.

36. An apparatus as in claim 33, wherein the extending means extend a predetermined length of the plurality of fine members along the axial direction of the inner shape of the outer cylindrical member, and the press-fitting means prevent the fine members from being axially pulled further into the outer cylindrical member.

37. An apparatus as in claim 16, wherein the movement of the fine members in the axial direction is prohibited with respect to one of the inner shaft member and outer cylindrical member and is allowed with respect to the other of the inner shaft member and outer cylindrical member.

38. An apparatus as in claim 16, wherein the cross-section of each fine member is circular.

39. An apparatus as in claim 16, wherein each fine member is made of steel wire.

40. An apparatus as in claim 16, wherein each fine member is made of steel wire having a property such that the rigidity is increased when bent.

41. An apparatus as in claim 33, further comprising a drum for winding fine members, wherein wound fine members are pulled from the drum while press-fitting the inner shaft member into the outer cylindrical member.